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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/790,377

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Scott W. Fowser

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07/10/2008

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EXAMINER

LEO, LEONARD R

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

07/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/790,377	Applicant(s) FOWSER ET AL.	
	Examiner Leonard R. Leo	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-22 is/are pending in the application.
- 4a) Of the above claim(s) 7-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 18-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment filed on March 28, 2008 as been entered. Claims 5-6 and 23-24 are cancelled, claims 1-4 and 7-22 are pending, and claims 7-17 remain withdrawn from further consideration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4, 18-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hammond in view of Berntell et al.

Hammond discloses all the claimed limitations except joining members and disconnected corrugated portions.

Berntell et al discloses a heat exchanger comprising a plurality of flow divider sheets 100, 101 having a plurality of flow channels 31 defined corrugations 11, wherein the sheets are disconnected (column 2, lines 45-49) and sealed along transverse edges via joining members 1, 2 (column 2, lines 54-58) for the purpose of providing respective communicating flow channels.

Since Hammond and Berntell et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Berntell et al would have been recognized in the pertinent art of Hammond.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Hammond disconnected sheets sealed along transverse

edges via joining members for the purpose of providing respective communicating flow channels as recognized by Berntell et al.

Regarding claim 2, Figure 2 of Hammond discloses transverse inlets 45.

Regarding claims 4 and 22, Figure 1 of Hammond discloses the corrugations 23 contact the crests of an adjacent flow divider sheet 20.

Regarding claim 18, Hammond (column 2, lines 42-50) discloses a second manifold.

Regarding claims 19-20, Figure 2 of Hammond discloses the manifolds define transverse port 45 and longitudinal 46 for the respective fluids.

Claims 3 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hammond in view of Berntell et al as applied to claims 1-2, 4, 18-20 and 22 above, and further in view of Tsunoda et al.

The combined teachings of Hammond and Berntell et al lacks vanes.

Tsunoda et al discloses a heat exchanger comprising a plurality of flow divider sheets 42 having manifolds and a plurality of flow channels 64 defined by ridges 49, and vanes 51a-c (Figure 4) for the purpose of efficiently redirecting the transverse flow to minimize pressure losses.

Since Hammond and Tsunoda et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Tsunoda et al would have been recognized in the pertinent art of Hammond.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Hammond vanes for the purpose of efficiently redirecting the transverse flow to minimize pressure losses as recognized by Tsunoda et al.

Response to Arguments

The objection to the drawings under 37 CFR 1.83(a) and the rejection under 35 U.S.C. 103(a) as being unpatentable over Hammond in view of Claudel et al are withdrawn in view of the cancellation of claims 6 and 24.

The rejection in view of Ulbricht is withdrawn in view of the amendment.

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ LEONARD R. LEO /
PRIMARY EXAMINER
ART UNIT 3744

July 10, 2008